OPTICAL IDENTIFICATION AND SHORT TIME SCALE VARIABILITY OF BLAZARS

Attila Szing (1), Tibor Hegedüs (1), Oliver Vince (2)

(1) Baja Astronomical Observatory, (2) Beograd Observatory

We prepared a list of blazars and FSRQ (Flat-Spectrum Radio Quasars) objects from all available radio catalogues for optical continuous photometric follow-up by Kepler. We found 7 observable candidate targets for Field-2 period and 12 for Field-3, brighter than 20 mag (5 possible targets do not have known visual magnitudes as yet). Our main goal is to characterize and describe the previously unknown low level optical variabilities from short to medium time-scales for all of our sample objects. Identifying periodic and aperiodic features in the light curves help us to narrow down the corresponding spatial counterparts in the sources and with this creating better physical models of them. Uninterrupted high precision data of Kepler will yield better understanding of these objects and additional pieces of information beside their known long-term behaviour previously studied by ground based observations. We need only LC (long cadence) data for each of our targets.

Helping the physical modelling of these objects in the optical bands we plan simultaneous ground-based SDSS 'griz' photometry and a few larger resolution images to separate the possible sources in the discs and/or the jets. Together with these supporting observations we shall be able to deduce physical situation of these objects like as e.g. the characteristic of spatial size and place of sources. We also plan to do further detailed spectroscopic studies of objects from the list.